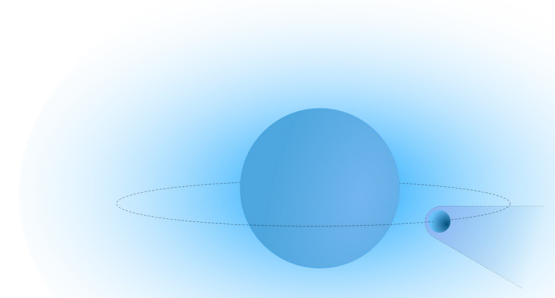
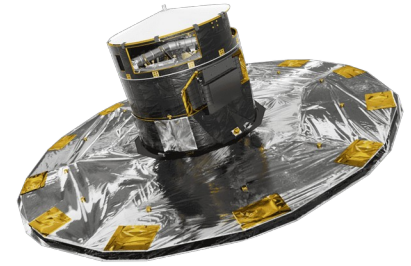
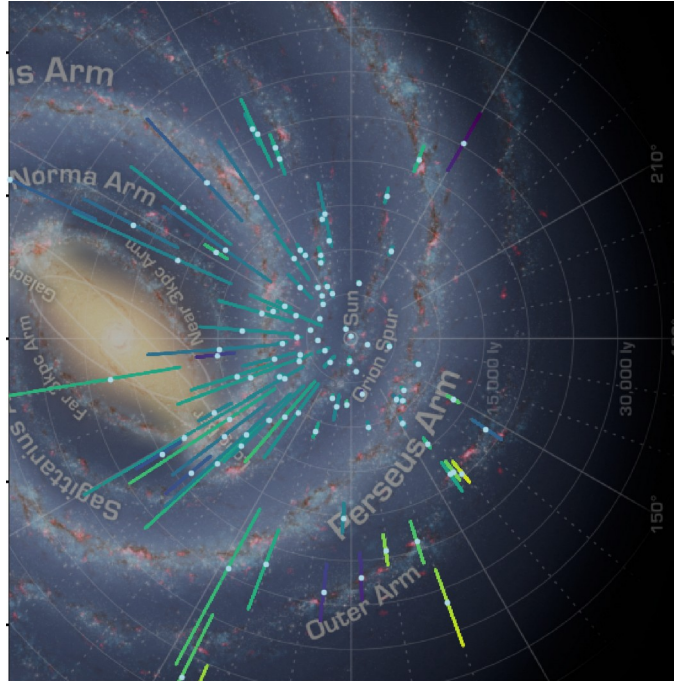
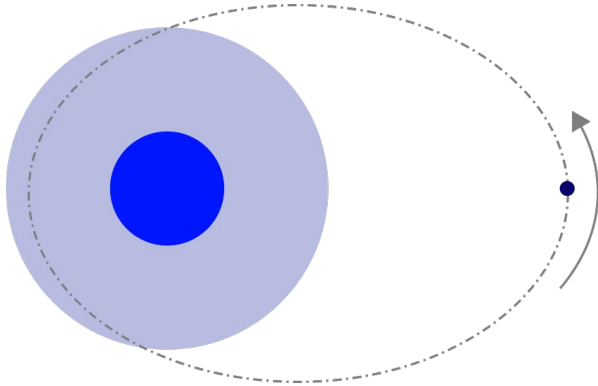
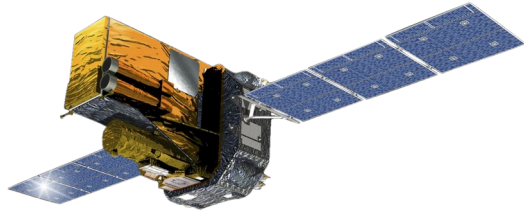
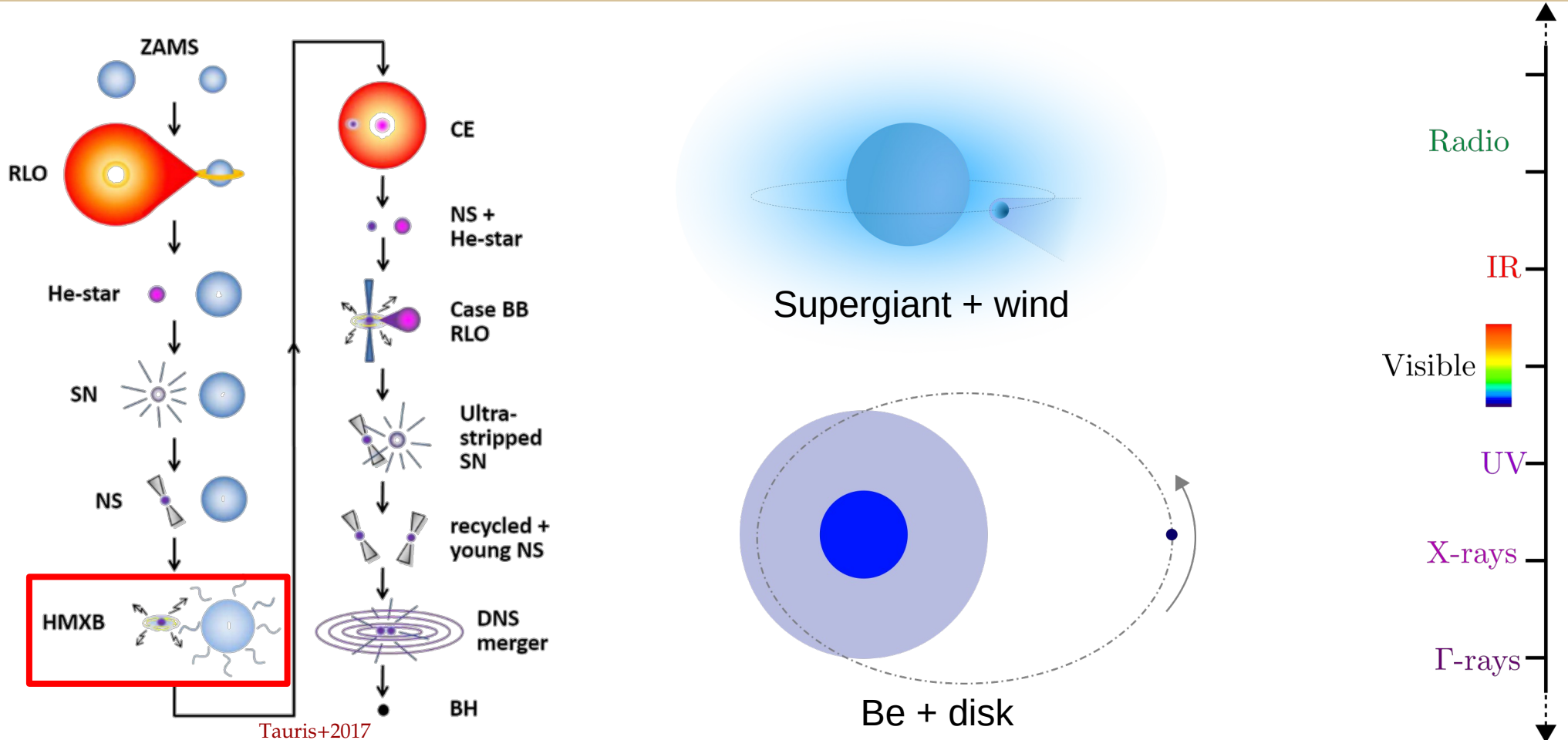


A catalogue of HMXBs in the Galaxy



Francis Fortin – Postdoc LabEx UnivEarthS – APC

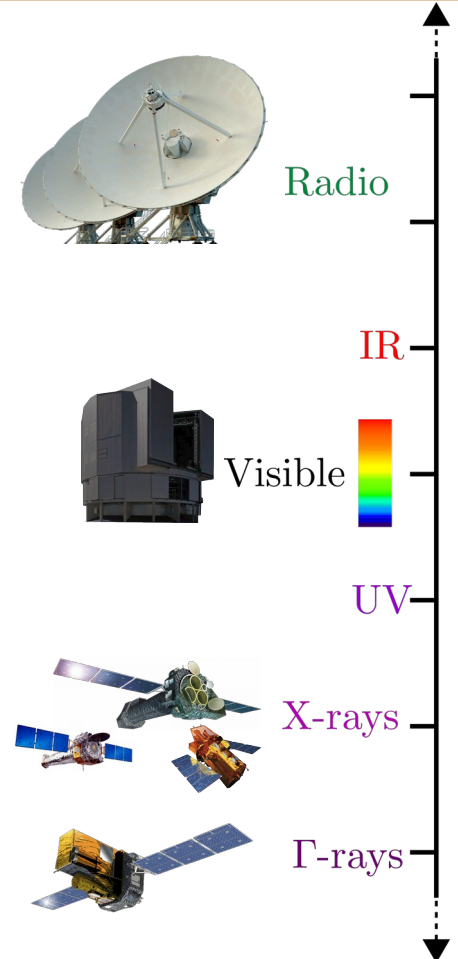
High-mass X-ray binaries



X-ray binaries: observational challenges

- 1) discovery in hard X-rays
- 2) better localization in soft X-rays
- 3) precise counterpart in optical/nIR/radio
 - spectral type of the companion star ?
 - (super)orbital period ?
 - spin period ?
 - radial velocity follow-up ?
 - variability ?

→ Many years & observations are necessary to fully constrain XRBs



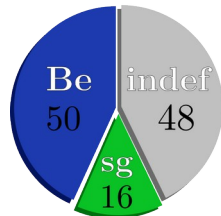
The new catalogue of HMXBs in the Galaxy

Last catalogue of HMXBs : [Liu et al. 2006](#) [114]

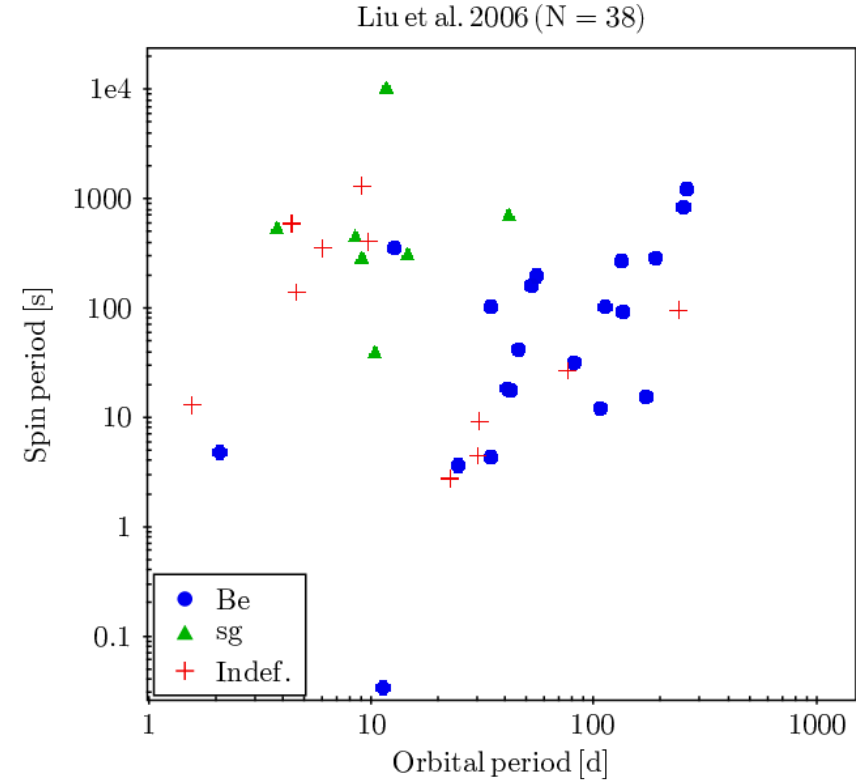
→ many new observations since then

→ INTEGRAL was just beginning !

Liu et al. (2006)



N=114



The new catalogue of HMXBs in the Galaxy

Last catalogue of HMXBs : [Liu et al. 2006](#) [114]

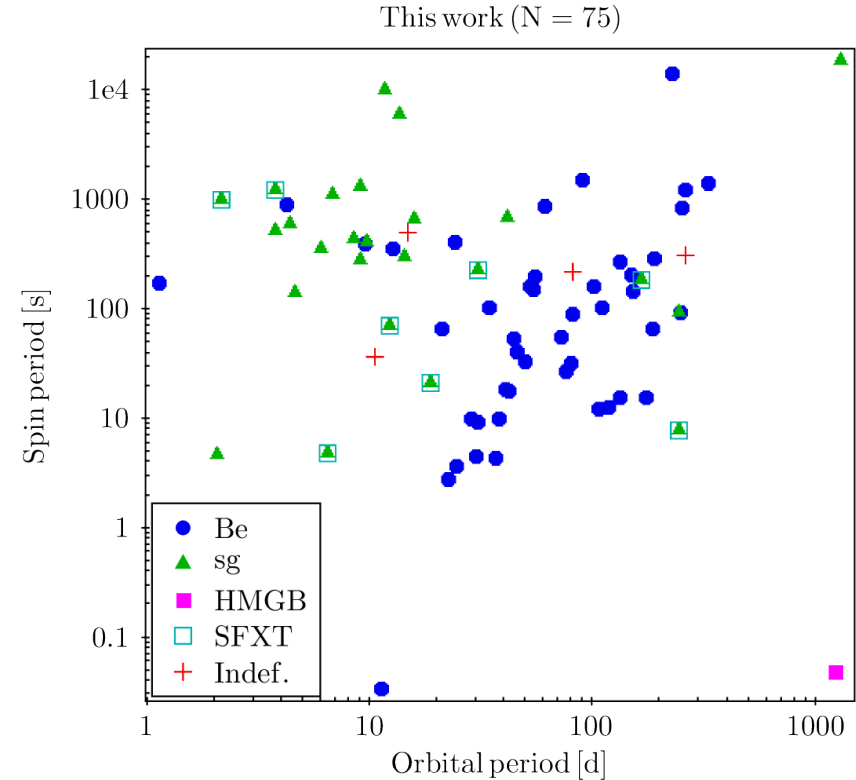
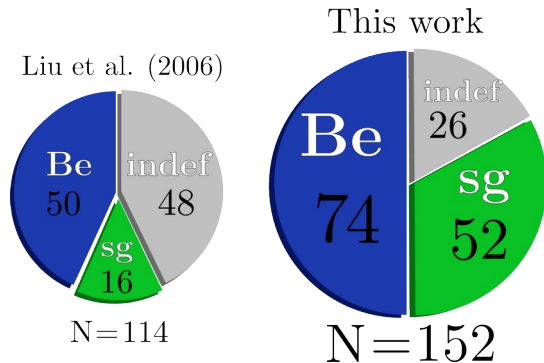
→ many new observations since then

→ INTEGRAL was just beginning !

New catalogue of HMXBs : [Fortin et al. 2023](#) [152]

→ automated search for multi-wavelength counterparts

→ manual search for spectral types, orbital parameters...



HMXB Webcat : an online tool (live demo !)

A Catalogue of High-Mass X-ray Binaries in the Galaxy

From the *INTEGRAL* to the *Gaia* era

HOME CATALOGUE NOTES DOWNLOADS CONTRIBUTING ABOUT

Search HMXB:

Show: 10

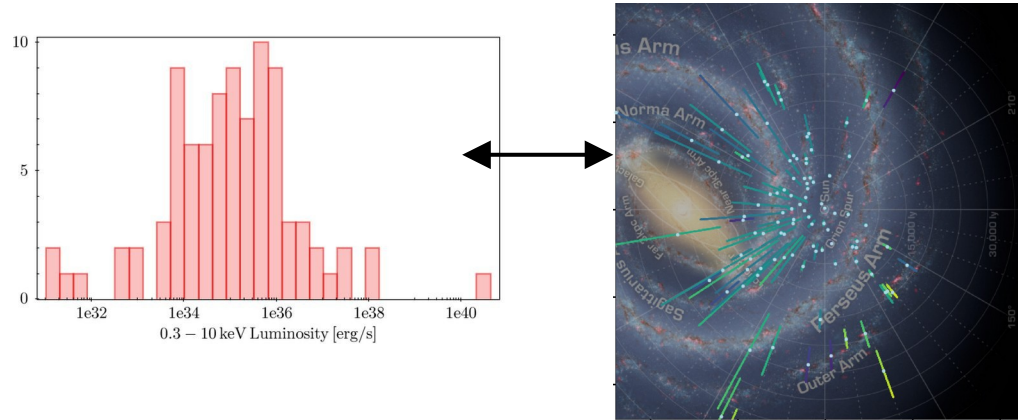
Query tip: any identifier known by Simbad will work !

<input type="checkbox"/>	Main ID [Field of View]	Spectral type	Class	Right Ascension [J2000]	Declination [J2000]	Error radius [mas]	Distance [pc]	Mx [Msun]	Mo [Msun]	Period [d]
<input type="checkbox"/>	IGR J00370+6122 [FoV]	BN0.7 Ib 2014A&A...566A.131G	sg	9.29013	61.3601	0.008	3401 (-171,+186)		22.0 2014A&A...563A...1G	15.664 2021P...
<input type="checkbox"/>	gam Cas [FoV]	B0.5IVpe 2011ARep...55...31S	Be	14.17745	60.7167	1.8			13.0 2000A&A...364L...85H	203.37 2012A...
<input type="checkbox"/>	EM* AS 14 [FoV]	B2 1960IzKry..24..160B		18.99604	59.1539	0.011	2592 (-140,+156)			

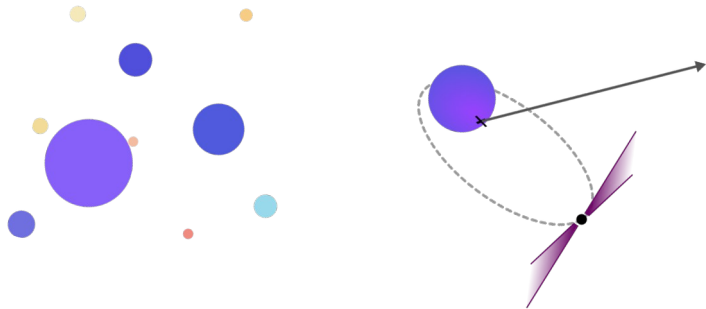
→ [GitHub/HMXBwebcat](https://github.com/HMXBwebcat)

What's the use ?

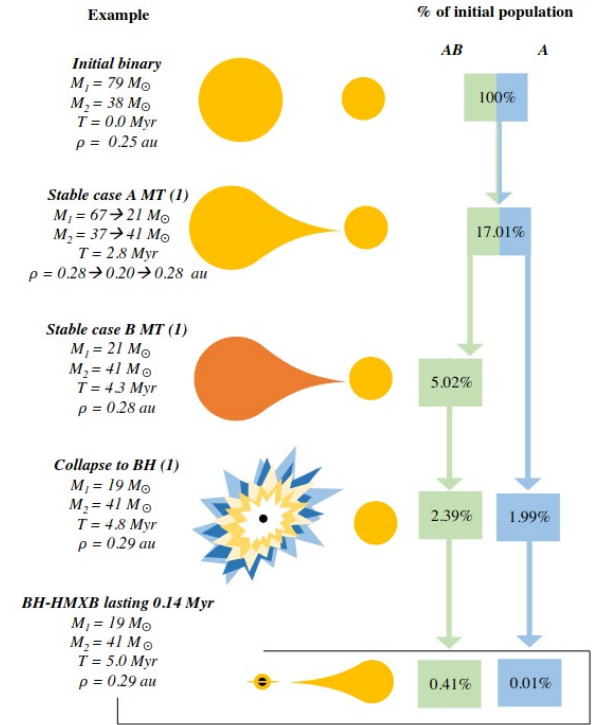
Contribution to X-ray luminosity



Evolution mechanisms



Population synthesis & compact binaries



Romero-Shaw+2023

Any contribution is welcome !

Visit the GitHub repo or reach me via email.

Modifications will be logged on the website
& new version will be available for download.

Thanks !

Attendance reward:



Mésange à longue queue / Long-tailed tit

Étang de Marcoussis, FR